Burlington
Safety Laboratory Inc.

DIELECTRIC TESTING PROCESS

Grounding Cables & Insulated Jumpers

www.burlingtonsafety.com

Burlington Safety Laboratory has been testing protective equipment since 1971. We are accredited by NAIL for PET, and our test procedures meet or exceed ASTM/ANSI, MIL Specs, NFPA 70E, FED and CAL OSHA standards. Our quality control procedures include thorough and accurate records of each and every article tested, along with dates and test values. Burlington Safety Laboratory's technicians are fully trained before they perform critical tests on your personal protective equipment.

Three Locations

Quick Turnaround

Expedited Services Available

Documented Test Results

State-of-the-Art Testing Labs

Exceptional Customer Service

New Product Inventory to Replace Failures

East Coast Operations

6 Cooper Street, Unit 100

Burlington, NJ 08016

609.387.3404

800.220.2120

Northern California

7087 Commerce Circle, Unit B

Pleasanton, CA 94588

925.251.1412

888.817.1412

Southern California

7382 Bolsa Avenue

Westminster, CA 92683

714.373.2801

800.296.2803

Dielectric Testing Process for Electrical Safety Grounding Cables & Insulated Jumpers

Burlington Safety Laboratory has a short 2 week turnaround upon receiving electrical safety grounding cables & insulated jumpers for laboratory testing to ASTM standards. Customers can either ship their gloves to us or drop them off at our facility for testing. Upon receiving, our testing process consists of:

1. **Hand Washing**

The testing process begins by hand washing each grounding cable and insulated jumper. This step ensures that every cable and clamp is thoroughly cleaned, restoring them to a pristine condition and ensuring optimal visual appearance.

Figure 1 - Grounding Cables & Insulated Jumpers

2. **Dielectric testing**

For grounding cables and insulated jumpers, the dielectric testing process involves immersing the cables in a barrel of water. The clamps are securely attached to a metal rod positioned above the barrel. Subsequently, the metal rod receives the appropriate voltage required for testing. This setup allows for the assessment of the cables' insulation properties and their ability to withstand electrical stress. Following the completion of the test, further steps are undertaken to ensure the integrity and safety of the cables.

3. **Visual**

After undergoing dielectric testing, insulated jumpers that pass are subjected to a thorough visual inspection. During this inspection, each cable and clamp is individually examined for any signs of damage, wear, or defects. If any clamps require repair or replacement, new clamp parts can be seamlessly added to the cable that has just completed dielectric testing. However, if a cable fails the dielectric test and exhibits significant damage or compromise, it cannot be repaired and must be replaced to ensure safety and compliance with standards.

4. Optional Part Replacement

In this step, our technicians assess the condition of the clamps and determine if replacement or repair is necessary. Clamps can be replaced or repaired for an additional cost, covering all parts of the clamp. Whether a clamp requires a complete replacement or just a specific part, such as a missing screw, can be addressed accordingly. However, it's important to note that rubber components cannot be repaired or replaced due to their integral role in ensuring insulation integrity.

Figure 2 - Replacement Parts

5. Sticker Certification

Following inspection and optional part replacement, our technicians affix a certification sticker to each grounding cable and insulated jumper. This sticker includes a unique serial number, the date of testing, and the location where the testing was conducted. The certification sticker serves as a visible indicator

Testing Specifications

Rubber Insulating Equipment	ASTM Designation
Rubber Insulating Gloves 2.5 – 40kV, Class 00 – Class 4	D120 / F496
Rubber Insulating Sleeves 5 – 40kV, Class 00 – Class 4	D1051 / F496
Rubber Insulating Footwear 5 – 20kV Overshoes & Boots	F1116/F1117
Rubber Insulating Blankets 5 – 40kV, Class 0 – Class 4	D1048/F479
Rubber Insulating Line Equipment Line Hose, Hoods, Covers, etc.	D1050/F478

Jumpers/Grounds	ASTM Designation
Hotline Jumpers Insulation & Voltage Drop Test	F2321
Ground Sets and Leads Voltage Drop Test	F855

Line Guards	ASTM Designation
Plastic Line Guards	F712

Hot Line Tools	ASTM Designation
All Hot Sticks Switch/straight, telescopic, and Grip-All sticks	F711

Voltage Detectors & Meters
Voltage Detectors (Manufacturer's Functional Test)
Meters (Manufacturer's Functional Test) **Calibration Services Available**

Testing Intervals

Equipment	Testing Interval
Gloves	Every 6 months
Sleeves	Every 12 months
Blankets	Every 12 months
Line Hose	Every 12 months
Boots	Every 6 months
Grounds	Every 12 months
Fiberglass Tools	Every 2 years

www.burlingtonsafety.com

Email us at:

info@burlingtonsafety.com

or contact us at one of our offices:

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